In using the apparatus, the hypochlorite solution is mixed in a separate bottle by agitating bleaching powder and water in the correct proportions. Free lime is allowed to settle; the tank A is then filled with the untreated water, and the hypochlorite solution is poured into the gauge C to the same level as that of the water in the tank, the cock D remaining closed meanwhile. The cock is then opened, and the untreated water and hypochlorite solution flow through it into the tank B, mixing *en route*. As the water levels in the tank A and in the gauge glass C fall at the same rate, the resulting mixture is in the correct proportions throughout.

To ensure that the proportion of disinfectant added shall be correct, two methods may be used. The strength of the hypochlorite solution may be calculated by the following formulæ:—

Let D = the diameter of the tank A in inches, if it is circular in plan,
B = the breadth, and
L = the length of the tank, if it is rectangular, in inches,
D = the diameter of the inside of the gauge glass C, in inches,
and R = the number of lbs. of bleaching powder required per million gallons of the water to be treated, which may be taken as 20 lbs. as a first approximation for bad water; the quantity may be adjusted after test of the treated water.

Then, if X = the percentage strength of the hypochlorite solution which is to be used expressed as the ratio $\frac{\text{weight of bleaching powder} \times 100.}{\text{weight of water.}}$

$$x = \frac{D2 \times R}{100{,}000 \times D2} \text{ for a circular tank,}$$

and $$x = \frac{1{\cdot}3\,B \times L \times R}{100{,}000 \times D2} \text{ for a rectangular tank.}$$

The whole of this formula, omitting "R", may be worked out once for all for a given tank and gauge glass, and then multiplied by whatever value of R it is desired to use for the time being.

An alternative method of ascertaining the strength of solution required is to take an amount of bleaching powder equal to $R \times \frac{\text{capacity of the tank A in gallons}}{1{,}000{,}000}$ and add this to an amount of water just sufficient to fill the gauge glass C, which may be found by trial.

The tank A must of course have vertical sides, *i.e.*, it must have a uniform section throughout its height.

APPENDIX VIII

(*See* section 227)

Lists of Reports and Returns to be submitted by the several officers under the Code

A.—Local Government to Government of India

(*a*) *When scarcity or famine is impending*

Special preliminary reports regarding the probable extent of distress and the state of affairs [secs. 19 (*p*), 29 and App. II, 1, 2].

(*b*) *During scarcity and famine*

1. Inclusion of a railway in the programme of relief works (App. I)

2. Monthly and quarterly narrative progress reports regarding railway works (App. I).

3. The first indication of scarcity and measures taken to ascertain the distress to be given in the weekly telegraphic report (App. II, 3).

4. Special telegram regarding famine measures (App. II, 4, 5).

5. Report regarding the inclusion in or exclusion from the affected area of a district or State in the famine season telegram (App. II, 6).

6. Monthly report in Forms (sec. 227 and App. II, 8).

7. Special report regarding insufficiency of funds and staff, &c. (App. II, 9).

8. Disturbances in the nature of grain riots (App. II, 10).

9. Immigration from Native States (App. II, 11).

10. Final report on famine (App. II, 12, 13).

B.—Famine Commissioner

1. Report of all important orders issued (sec. 36).

2. Reports and returns prescribed by Government (sec. 36).

B-1.—Commissioner of Division

(*a*) *In ordinary times*

Programmes of relief works in Form 1.

(*b*) *When scarcity or famine is impending*

1. Report regarding impending scarcity (sec. 22).

2. Intimation to Railway authorities of impending scarcity or famine (sec. 27).

(*c*) *During famine*

1. Report regarding grant of dependent's allowances to workers under certain circumstances (sec. 118).

2. Estimates of famine relief expenditure (secs. 239, 255).

3. Quarterly statement of assignments, &c., to Government (sec. 242).

C.—Collector

(*a*) *In ordinary times*

1. Weekly rainfall and season report [sec. 7 (*b*)].

2. Proposals for the relief of distress, &c. [sec. 7 (*e*)].

3. Report to Commissioner on 15th January each year that programme of scarcity works has been prepared and approved by him (sec. 13).

(*b*) *When scarcity or famine is impending*

1. Notice to printing agency for forms for use on relief works, &c. [sec. 19 (*i*)].

2. Probable requirements of medical officers to Director of Public Health [secs. 19 (*j*), 38].

3. Report regarding the measures taken on the first warning of scarcity to Government [sec. 19 (*o*) and App. II, 1].

4. Estimate of the number of persons requiring relief to Superintending Engineer [sec. 20 (*e*)].

5. Report regarding impending scarcity or famine with statement in Form 2 to Commissioner (sec. 21).

6. Inform Director, Labour Office, about need for work [sec. 19 (*d*)].

(*c*) *During scarcity or famine*

1. Report regarding the commencement of relief to Commissioner (sec. 33).

2. Statement in Form 5 for village servants on relief [sec. 160 (*e*)].

3. Report regarding names of patils and village accountants for the payment of additional remuneration (sec. 161).

4. Weekly season telegram in Form 3 to Government [sec. 227 (*a*)].

5. Weekly progress return of relief works in Form 4 to Government [sec. 227 (*b*)].

6. Weekly progress return of gratuitous relief in Form 5 to Government [sec. 227 (*c*)].

7. Monthly report on the general progress of relief operations in Form 6 to Government [sec. 227 (*d*)].

8. Monthly Statement in Form 7 to Government [sec. 227 (*e*)].

9. Estimates of famine relief expenditure to Commissioner [secs. 239, 240, 254, 255].

10. Report regarding outstanding permanent advances to Accountant-General (sec. 248).

D.—Superintending Engineer

(a) In ordinary times

1. Programmes of famine relief works in Form 1 to Commissioner at the end of each quinquennium (sec. 14).

2. Inspection report about reserves of tools, annually (sec. 17).

E.—Executive Engineer

(a) In ordinary times

Programmes of scarcity works in Form 1 to Collector not later than 15th January of each year and of famine relief works to the Superintending Engineer six months before the expiry of each quinquennium (sec. 14).

(b) During scarcity or famine

1. Reports regarding readiness of relief works for being opened and of opening and probable date of completion to Collector (sec. 81).

2. Notice to the treasury officer of demands for funds (sec. 135).

3. Estimates of famine relief expenditure to Commissioner (sec. 254).

4. Statement of cash and treasury balances to Accountant-General (sec. 266).

5. Return of receipts in Form 46 to Accountant-General [sec. 267 (*a*)].

6. Return of expenditure in Form 47 to Accountant-General [sec. 267 (*b*)].

7. Return of expenditure in Form 48 to Accountant-General (sec. 271).

F.—Director of Agriculture

In ordinary times

1. Monthly summary of rainfall and season reports [sec. 8 (*c*)].

2. Fortnightly return of retail prices of food-grains [sec. 8 (*d*)].

3. Statistical Atlas [sec. 8 (*g*)].

G.—Sub-Divisional Officer, R. D.

Report regarding result of observation made in tract unfavourably reported [sec. 6 (*d*)].

Sub-Divisional Officer, P. W. D.

Monthly tool return in Form 49 to Executive Engineer (sec. 273).

I.—Mamlatdar

In ordinary times

1. Fortnightly diary of Circle Inspectors to Sub-Divisional Officers [sec. 5 (*b*)].

2. Monthly birth and death rate returns to Collector and Director of Public Health [sec. 5 (*c*)].

3. Report regarding result of observation made in tracts reported unfavourably [sec. 5 (*d*)].

4. Weekly rainfall returns to Sub-Divisional Officers and Collectors [sec. 5 (*e*)].

J.—CIRCLE INSPECTOR

(*a*) *In ordinary times*

1. Report regarding result of personal observation and inquiry about unfavourable information of the season to Mamlatdar [sec. 4 (*c*)].

2. Fortnightly diary to Mamlatdar [sec. 4 (*d*)].

(*b*) *During scarcity or famine*

1. Memorandum of errors detected in inspection of accounts to Mamlatdar [sec. 49 (*e*)].

2. Report regarding unusual sickness or mortality in any village [sec. 49 (*f*)].

K.—VILLAGE OFFICERS

In ordinary times

Report regarding existence or prospect of distress, &c., to the Circle Inspector (sec. 3).

L.—TREASURY OFFICER

Estimates of probable cash requirements to Deputy Controller of Currency (sec. 241).

M.—AUDITORS

During scarcity or famine

Memorandum of errors, irregularities or defects in accounts (sec. 263).

N.—ACCOUNTANT-GENERAL

During scarcity or famine

1. Monthly statement in Form 44 of charges incurred to Government (sec. 243).

2. Report regarding sanction to grant of discount or commission to bankers to Government (sec. 291).

O.—DIRECTOR OF PUBLIC HEALTH

During scarcity or famine

1. Estimate of extra trained medical staff likely to be required to Surgeon General [sec. 205 (*a*)].

2. Requirements of medical officers for each district to Surgeon General [sec. 205 (*c*), (*g*)].

3. Estimate of requirements of medicines, instruments, &c., to Medical Store-keeper [secs. 205 (*h*) and 211].

4. Statement in Form 8 of death-rate to Government [sec. 205 (*k*).]

5. Return in Form 37 of persons treated in hospitals to Government [sec. 205 (*l*)].

6. Intimation of his movements to Collector [sec. 205 (*m*)].

P.—SURGEON GENERAL

During famine

1. Application for additional assistance to Government (sec. 208).

2. Information regarding postings of medical officers to Director of Public Health [sec. 209 (*a*)].

3. Copy of order of appointment of medical subordinate to Accountant-General (sec. 280).

Q.—MEDICAL OFFICER IN HOSPITAL

During scarcity or famine

1. Diet register in Form 22 and stock register in Form 23 to Charge Officer (sec. 142).

2. Report regarding outbreak of cholera or other epidemic disease [sec. 217 (*e*)].

3. Extracts from visitors' book to Executive Engineer [sec. 217 (*g*)].

4. Report regarding defects noticed in inspections to Charge Officer [sec. 218 (*n*)].

5. Return of patients in hospitals in Form 41 [sec. 219 (*f*)].

R.—Charge Officer

During famine

1. Report regarding outbreak of epidemic disease to Public Works Sub-Divisional Officer, Executive Engineer and Collector [sec. 85 (*q*)].

2. Report regarding insufficiency of competition in markets on relief works to Collector [sec. 88 (*f*)].

3. Daily post-card in Form 8 (sec. 89).

4. Weekly general report in Form 9 to Collector (sec. 89).

5. Statement of actual cash balance in Form 17 (sec. 138).

6. Copy of cashbook in Form 15 [sec. 260 (*a*).]

7. Voucher for wages and cash allowances in Form 20 [sec. 260 (*b*)].

8. Copy of hospital accounts [sec. 260 (*c*)].

9. Copy of kitchen accounts [sec. 260 (*d*)].

10. Monthly tool return in Form 49 to Sub-Divisional Officer [sec. 273 (*a*)].

S.—Manager of Orphanage

During scarcity or famine

Copy of register in Form 36 of famine orphans to Collector [sec. 183 (*b*)].

T.—Superintendents of Police

(*a*) *When scarcity or famine is impending*

Special reports about increase of crime and of approaching distress to Collector [sec. 19 (*f*)].

(*b*) *During scarcity or famine*

Report regarding extent of roadside mortality to Collector (sec. 204).

U.—Police Officers

During scarcity or famine

1. Special report regarding crime, wandering, starvation, migration, deaths, &c., to District Superintendent of Police (sec. 201).

2. Copy of accounts in Form 34 to District Superintendent of Police (sec. 202).

V.—Railway Administration

(*a*) *In ordinary times*

Report regarding unusual movements of food-grains by rail to Collector [sec. 19 (*g*)].

(*b*) *During scarcity or famine*

Report regarding certain matters connected with movements of fodder and grain to Government (sec. 236).